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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/456,558 12/08/99 BERTOCCHIO

R 1798-7337

EXAMINER

IM52/0911

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CINTINS, I  
ART UNIT

PAPER NUMBER

1724  
DATE MAILED:

09/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/456,558

Applicant(s)  
Bertocchio

Examiner  
Ivars Cintins

Art Unit  
1724



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on May 21, 2001 and June 25, 2001

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-21 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_

20) ☐ Other:

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7, 8, 16-19 and 21 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The terms "optionally helium" (claim 7, line 2; claim 21, line 6) and "working" (claim 7, line 3; claim 8, line 2; and claim 21, line 7) are vague, and indefinite as to the limitations intended.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lavin et al (U.S. Patent No. 6,020,281). As pointed out in the previous Office Action, the reference discloses drying difluoromethane (F32) with a 3A type molecular sieve material at the recited temperature; and therefore, this

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reference discloses the claimed invention with the exception of the operating pressure and water content of the stream undergoing treatment. However, the exact operating pressure and water content of the F32 undergoing treatment are not seen to materially affect the overall results of the reference process, or to produce any new and unexpected results; and are therefore deemed to be obvious matters of choice, which are insufficient to patentably distinguish the claims.

Claims 6, 9, 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lavin et al as applied above, and further in view of Sherman et al (U.S. Patent No. 4,663,052). The modified primary reference discloses the claimed invention with the exception of the recited regeneration treatment. Sherman et al teaches regenerating a molecular sieve in the recited manner; and it would have been obvious to one of ordinary skill in the art at the time the invention was made to regenerate the molecular sieve of the primary reference in the manner taught by Sherman et al, in order to enable this primary reference adsorbent to be reused.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lavin et al and Sherman et al as applied above, and further in view of Golden et al (U.S. Patent No. 5,897,686). The modified primary reference discloses the claimed invention

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with the exception of the use of a plurality of parallel columns to treat the F32. Golden et al discloses (see col. 3, lines 10-12) drying a fluid with an adsorbent in a plurality of parallel zones. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the modified primary reference with a plurality of treatment columns, as suggested by Golden et al, in order to increase the treatment capacity of this modified primary reference system.

Applicant's arguments filed May 21, 2001, and supplemented June 25, 2001, have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that the process of Lavin et al is a batch process, not a continuous process. It is pointed out, however, the claims do not specifically recite a "continuous" process, and therefore this argument is not deemed to be persuasive of patentability for these claims. In any event, Lavin et al clearly teaches removing water from a circulating refrigerant stream (see col. 1, line 15), which process is deemed to be continuous.

Applicant also argues that Lavin et al fails to disclose operating at the recited pressure, which pressure is disclosed in the specification as being important. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that the process

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of Lavin et al inherently operates at some pressure, and absent a showing that the recited pressure produces any new and unexpected result, the exact operating pressure employed in this reference process is deemed to be an obvious matter of choice, insufficient to patentably distinguish the claims.

Applicant also argues that the Lavin et al teaches that zeolite 3A cannot be used to dry R-32 without first being modified by a pore reducing treatment. Once again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that the claims merely require use of a composition comprising a molecular sieve (such as 3A), and the primary reference composition used to dry the difluoromethane clearly comprises such a material.

Applicant further argues that there is no motivation to combine the teachings of Sherman et al with those of Lavin et al because the Sherman reference is concerned with drying acidic streams and does not teach or fairly suggest drying a wet F32 stream. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that Sherman et al is relied upon only for its teaching that molecular sieves loaded with water as a result of being used to dry a fluid can be regenerated and reused. Since reuse of the molecular sieve material of Lavin et al would

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clearly be desirable, in order to reduce material costs, it would have been obvious to one of ordinary skill in the art at the time the invention was made to regenerate this primary reference material in the manner suggested by Sherman et al.

Claim 21 would be allowed if rewritten or amended to overcome the above rejection under 35 U.S.C. § 112. Claims 7, 8 and 16-19 would also be allowed if rewritten in independent form to include all of the limitations of the base claim and any intervening claims, and if further amended to overcome the above rejection under 35 U.S.C. § 112.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

The fax phone numbers for this art unit are: (703) 305-3599 for "Official" faxes after Final Rejection; (703) 305-7718 for all other "Official" faxes; and (703) 305-3602 for "Draft" and other "Unofficial" faxes.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

  
Ivars C. Cintins  
Primary Examiner  
Art Unit 1724

I. Cintins  
September 9, 2001